

CLAIMS:

What is claimed is:

1. A container and overcap, comprising:
a hollow plastic container having an opening comprising a rim, wherein an upper portion of
said rim is rounded and a lower portion of said rim is essentially flat in cross-section;
a flexible, plastic, snap-on overcap that removable fits over said rim of said container, said
5 cap comprising a base portion sized to cover said opening of said container and a flange
extending essentially perpendicularly to said base portion, wherein an inner surface of said
flange contains a circumferential ridge having a peak, wherein a face of said ridge is
essentially flat in cross-section so that said face of said ridge seals against said lower
portion of said rim of said container, wherein said flange contacts said container only at
10 said lower portion of said rim;
whereby said cap provides a seal to said hollow plastic container.
2. The container and overcap of Claim 1, wherein both of said container and said cap are
molded.
3. The container and overcap of Claim 1, wherein said container is blow molded.
4. The container and overcap of Claim 1, wherein said cap is injection molded.
5. The container and overcap of Claim 1, wherein said lower portion of said lid and said
face of said ridge provide a surface-to-surface contact.
6. The container and overcap of Claim 1, wherein a nominal inner diameter of said overcap
at said peak is equal to a nominal outer diameter of said rim of said container plus the
manufacturing tolerance of said container minus twice an overlap needed for tightness minus the
manufacturing tolerance of said cap.

7. The container and overcap of Claim 1, wherein a nominal inner diameter of said cap at locations away from said ridge is greater than a nominal outside diameter of a rim of said container at a largest diameter minus a manufacturing tolerance of said container plus a manufacturing tolerance of said overcap.
8. The container and overcap of Claim 1, wherein said container is formed of a high-density polyethylene.
9. The container and overcap of Claim 1, wherein said cap is formed of a low-density polyethylene.
10. The container and overcap of Claim 1, further comprising a freshness seal affixed to said opening of said container with an adhesive.

11. A method of providing a close fit between a molded container and a molded overcap, where the overcap has a smaller amount of tolerance in the molding process than does the container, the method comprising the steps of:

(a) designing a container, such that said container has an opening surrounded by a rim, said rim having an upper portion that is rounded and a lower portion that is flat in cross-section, wherein said container is designed to have a nominal outer diameter at a largest circumference of said rim of $OD_{RIM.NOM}$ with a manufacturing tolerance of T_{CNTR} ;

(b) designing a snap-on overcap to removably snap over said rim of said container, wherein a base of said overcap is sized to cover said opening, said overcap further comprising a flange extending essentially perpendicularly from said base, an inner surface of said flange containing a circumferential ridge having a peak, a flattened face of said ridge being configured to seat against said lower portion of said rim of said container, said overcap having a manufacturing tolerance of T_{CAP} , wherein $T_{CAP} > T_{CNTR}$.

12. The method of Claim 11, wherein both of said container and said cap are designed to be molded.

13. The method of Claim 11, wherein said container is designed to be blow molded.

14. The method of Claim 11, wherein said cap is designed to be injection molded.

15. The method of Claim 11, wherein said lower portion of said rim and said face of said ridge are designed to provide a surface-to-surface contact.

16. The method of Claim 11, wherein a nominal inner diameter of said overcap at said peak is equal to a nominal outer diameter of said rim of said container plus the manufacturing tolerance of said container minus twice an overlap needed for tightness minus the manufacturing tolerance of said cap ($ID_{PEAK.NOM} = OD_{RIM.NOM} + T_{CNTR} - (2 \times OVR) - T_{CAP}$).

17. The method of Claim 11, wherein a nominal inner diameter of said cap at locations away from said ridge is greater than a nominal outside diameter of a rim of said container at a largest diameter minus a manufacturing tolerance of said container plus a manufacturing tolerance of said overcap.
18. The method of Claim 11, wherein said container is designed to be a high-density polyethylene.
19. The method of Claim 11, wherein said cap is designed to be a low-density polyethylene.

20. A method of providing a close fit between a molded container and a molded overcap, where the overcap has a smaller amount of tolerance in the molding process than does the container, the method comprising the steps of:

(a) designing a container, such that said container has an opening surrounded by a rim, said rim having an upper portion that is rounded and a lower portion that is flat in cross-section, wherein said container is designed to have a nominal outer diameter at a largest circumference of said rim of $OD_{RIM.NOM}$ with a manufacturing tolerance of T_{CNTR} ;

(b) designing a snap-on overcap to removably snap over said rim of said container, wherein a base of said overcap is sized to cover said opening, said overcap further comprising a flange extending essentially perpendicularly from said base, an inner surface of said flange containing a circumferential ridge having a peak, a flattened face of said ridge being configured to seat against said lower portion of said rim of said container, said overcap having a manufacturing tolerance of T_{CAP} , wherein $T_{CAP} > T_{CNTR}$, said designing step (b) comprising

(b1) determining a desired overlap between said peak and said rim of OVR to provide a desired tightness in the fit;

(b2) determining a nominal inner diameter of said cap at said peak to be $ID_{PEAK.NOM} = OD_{RIM.NOM} + T_{CNTR} - (2 \times OVR) - T_{CAP}$; and

(b3) determining a nominal inner diameter of said cap at locations away from said ridge to be $ID_{FLANGE.NOM} > OD_{RIM.NOM} - T_{CNTR} + T_{CAP}$.

21. The method of Claim 11, wherein said container is designed to be blow molded.

22. The method of Claim 11, wherein said overcap is designed to be injection molded.

23. The method of Claim 11, wherein a design for said container and said overcap calls for a low friction plastic to be used in the manufacture.